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| EXAMINER |
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JOHNSON, CARLTON

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2436

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10/30/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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| | | | |
|------------------------------|---------------------------------------|---|--|
| Office Action Summary | Application No. 10/679,222 | Applicant(s) ORMAZABAL ET AL. | |
| | Examiner CARLTON V. JOHNSON | Art Unit 2436 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responding to application amendments filed on **7-15-2008**.
2. Claims **1 - 32** are pending. Claims **2, 4, 10, 18, 22, 28** have been amended.
Claims **1, 7, 14, 20, 25** are independent. This application was filed on **10-3-2003**.

Response to Arguments

3. Applicant's arguments filed 7/15/2008 have been fully considered and were not persuasive.
- 3.1 Claims **2, 4 - 6, 10 - 12, 18, 19, 22 - 24, 28, 29** are allowable. Claims **2, 4, 10, 18, 22, 28** have been rewritten in independent form including all of the limitations of the base claims and any intervening claims and therefore are allowable. Claims **5, 6, 11, 12, 19, 23, 24, 29** are allowable due to dependence on an allowable base.

Applicant's previous arguments, see Applicant Arguments/Remarks Made in an Amendment, filed January 31, 2008, with respect to the rejection(s) of claim(s) **2, 4, 10, 18, 22, 23, 28, 29** under 35 U.S.C. 102(e) as being anticipated by **Katz et al.** (US PG PUB No. **20040039938**) and under 35 U.S.C. 103(a) as being unpatentable over **Katz-McClure** and further in view of **MeLampy et al.** (US PG PUB No. **20020112073**) have been fully considered and were persuasive. The rejection(s) were previously withdrawn.

In addition, Claim **30** does not include the limitations of the base claims present in the other proposed independent claims. If rewritten in a similar form, claim **30** will be in allowable form and is allowed. Applicant has not rewritten claim 30 in independent form. Therefore, Claim 30 is not allowable in its present form.

3.2 Applicant argues the opening and closing of a port as a security measure. (see Remarks Page 18-30)

Katz discloses controlling the opening and closing of a port in conjunction with a session initiation and session termination process. The Katz prior art discloses a port opening on the basis of detecting a communications session initiation and port closings in conjunction with session closings or termination. (see Katz paragraph [0027], lines 1-9; paragraph [0033], lines 5-11) Katz discloses communications for network security and the concept of opening and closing ports in conjunction with a session initiation procedure and session termination procedure to create a communications structure equivalent to a pinhole. The session initiation is in conjunction with the opening a port and session termination is in conjunction with closing a port. The Katz prior art discloses monitoring the operation a system to reach a determination for a delay value in the opening and closing ports (session communications interface).

Applicant argues the dependent claims. (See Remarks Pages 21-30) The rejection of the dependent claims (non allowable claims) is based on the rejection of the independent claims and the rejection of the dependent claims' additional claim limitations (see Office Action).

A delay is defined as the time period between two events. Namely, for the opening of a port event, the delay is the time period between a closed port state and an open port state. And, for the closing of a port event, the delay is the time period between an open port state and a closed port state. The Katz prior art discloses a time calculation for opening a port and closing a port. This time calculation includes a time delay portion calculation. Katz discloses the calculation of multiple types of delay and an opening and closing delay is well known in the art. (see Katz paragraphs [0011] and [0012]: multiple types of delay)

In order to adjust a value, the current state of a value namely the delay time (time period between closed and opened states or between opened and closed states) must first be determined, and then the value can be adjusted. The Katz prior art discloses the determination of a port opening time period and a port closing time period. The delay value is the time period for a transition from one state to the next state.

The Katz prior art discloses a time stamp for communications that pass through a communications session (session signaling) interface. The opening of a port is a communications initiation function and is the first signal to pass through a communications session interface. (see Katz paragraph [0014], lines 4-9; paragraph [0016], lines 5-10: time stamp communications processing; paragraph [0013], lines 5-9; paragraph [0030], lines 1-4: session signaling, port opening, port closing, communications session established, terminated))

3.3 The identification patent number for the rejection based on the Bearden prior art

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has been corrected.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims **1, 3, 7 - 9, 14 - 17, 31** are rejected under 35 U.S.C. 102(e) as being anticipated by **Katz et al.** (US PG PUB No. **20040039938**).

With Regards to Claim 1, Katz discloses a method of testing a firewall comprising:

- a) transmitting at least one of a session initiation signal to initiate a communications session through said firewall and a session termination signal used to terminate an established communications session; (see Katz paragraph [0013], lines 5-9; paragraph [0030], lines 1-4: session signaling, port opening, port closing, communications session established, terminated) and
- b) monitoring to determine from the time of at least one said transmitted signal at least one of a port opening delay which occurs in regard to a session initiation signal and opening a port in said firewall for a communications session that is being initiated and a port closing delay which occurs in regard to a session

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termination signal and closing a port in said firewall when terminating an established communications session. (see Katz paragraph [0030], lines 1-4; paragraph [0034], lines 1-5; paragraph [0024], lines 5-9: monitor, port opening delay, port closing delay, communications acknowledgement, delay determination)

With Regards to Claim 3, Katz discloses the method according to claim 1, wherein said at least one of a port opening delay and a port closing delay is a port closing delay. (see Katz paragraph [0014], lines 2-8; paragraph [0024], lines 5-9: port closing delay, acknowledgement response)

With Regards to Claim 7, Katz discloses a method of testing a network firewall comprising:

- a) transmitting a session signal to terminate an ongoing communications session being conducted through at least one port of said firewall; (see Katz paragraph [00027], lines 6-9: terminate session, port closing) and
- b) measuring a port closing delay time associated with the closing of said at least one port following the transmission of said signal to terminate said communications session. (see Katz paragraph [0030], lines 1-4; paragraph [0034], lines 1-5: monitor, port opening delay, port closing delay, communications acknowledgement; paragraph [0027], lines 6-9: session termination, port closing)

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With Regards to Claim 8, Katz discloses the method of claim 7, wherein said port closing delay is a time period which occurs between the time a signal used to cause the closing of the port is detected and said port ceases to allow communications signals to pass through from the first side of said firewall to the second side of said firewall. (see Katz paragraph [0027], lines 6-9: port closing (i.e. opening, or closing); paragraph [0024], lines 5-9: port closing delay determination)

With Regards to Claim 9, Katz discloses the method according to claim 8, further comprising the steps of: transmitting test signals at said port prior to the closing of said port; and monitoring the port to determine when said test signals cease passing through said port. (see Katz paragraph [0024], lines 5-9: time period to measure response acknowledgement, port closing delay)

With Regards to Claim 14, Katz discloses a method of testing a network firewall, comprising:

- a) transmitting a session signal to initiate a communications session to be conducted through said firewall; (see Katz paragraph [0031], lines 2-4: session initiation)
- b) transmitting test signals to at least one port on a first side of said firewall; (see Katz paragraph [0013], lines 5-9; paragraph [0030], lines 1-4: port opening, closing signals)
- c) determining a time when said test signals first pass through said at least one port,

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said at least one port being opened in response to said signal to initiate a communications session; (see Katz paragraph [0030], lines 1-4: time parameter utilized to open session) and

- d) determining a port opening delay which occurs in regard to opening a port in said firewall for said communications session from said determined time. (see Katz paragraph [0024], lines 5-9: port opening delay, acknowledgement response, delay determination)

With Regards to Claim 15, Katz discloses the method of claim 14, wherein said port opening delay is a time period which occurs between a time a signal used to cause the port for said communications session to open is detected and said port allows a signal to pass through from the first side of said firewall to the second side of said firewall. (see Katz paragraph [0024], lines 5-9: signal, acknowledgment sequence)

With Regards to Claim 16, Katz discloses the method according to claim 15, further comprising the step of:

- a) transmitting another session signal to terminate said communications session; (see Katz paragraph [0027], lines 6-9: terminate close session) and
- b) monitoring a port closing delay time corresponding to a port closing delay which occurs in regard to closing the port in said firewall that was opened for said communications session. (see Katz paragraph [0030], lines 1-4; paragraph [0034], lines 1-5: monitor, port opening delay, port closing delay, communications

acknowledgement, delay determination)

With Regards to Claim 17, Katz discloses the method of claim 16, wherein said port closing delay is a time period which occurs between the time a signal used to cause the closing of the port is detected and said port ceases to allow communications signals to pass through from the first side of said firewall to the second side of said firewall. (see Katz paragraph [0024], lines 5-9; paragraph [0027], lines 6-9: determine delay, port closing communications session terminated)

With Regards to Claim 31, Katz discloses the method of claim 30, further comprising; determining the session signal rate, which results in a maximum acceptable port closing delay being exceeded. (see Katz paragraph [0024], lines 5-9; paragraph [0025], lines 7-9: predetermined value for delay)

6. Claims **13, 32** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Katz** in view of **MeLampy et al.** (US PG PUB No. **20020112073**).

With Regards to Claims 13, 32, Katz discloses the method of claims 7, 31. (see Katz paragraph [0013], lines 5-9; paragraph [0030], lines 1-4: port opening, closing) Katz does not specifically disclose wherein said session signal is at least one of SIP and H.323 compliant signals. However, MeLampy in the same field of endeavor,

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communications (i.e. open, close) port processing, discloses wherein said session signal is at least one of SIP and H.323 compliant signals. (see McLampy paragraph [0065], lines 1-11; paragraph [0077], lines 1-4; paragraph [0077], lines 10-18; paragraph [0085], lines 2-6: session signaling, SIP, H.323)

It would have been obvious to one of ordinary skill in the art to modify Katz whereby a session signal is a SIP and/or H.323 compliant signals as taught by McLampy. One of ordinary skill in the art would have been motivated to employ the teachings of McLampy in order to enable the efficient interoperation of a network type switch based on standards for networks communications interoperability. (see McLampy paragraph [0027], lines 9-15: “ ... *For example, to enable proper routing, each softswitch would have to share information about circuit availability to ensure proper route-around functionality as the network becomes full. Since there are currently no standards for accomplishing this, vendors have been building proprietary methods; and these proprietary methods may not interoperate correctly. ...* ”)

6. Claims **20, 21, 25, 26, 27** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Katz** in view of **McClure et al.** (US PG PUB No. **20030195861**).

With Regards to Claim 20, Katz discloses a firewall test apparatus, comprising:

- a) a session signaling module for generating session signals used to initiate a communications session to be conducted through a firewall to be tested and to terminate a communications session after it has been initiated; (see Katz

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paragraph [0026], lines 1-4; paragraph [0027], lines 6-9: initiate communication session (i.e. port open) and terminate communications session (i.e. port close))

- c) a timing synchronization module for synchronizing operation of said firewall test apparatus to at least one of an external clock source and another firewall test apparatus; (see Katz paragraph [0015], lines 6-9: time synchronization) and

Katz discloses wherein an analysis module for determining at least a port closing delay from a session signal time, and detected to stop passing through a port in said firewall. (see Katz paragraph [0024], lines 5-9: port closing delay[paragraph [0027], lines 6-9: terminate (i.e. stop) communications session; paragraph [0036], lines 1-2; paragraph [0036], lines 6-12: software, module) Katz does not specifically disclose a scanning probe generation module for generating probe signals to be directed at firewall ports, and time probe signals.

However, McClure in the same field of endeavor, communications (i.e. open, close) port processing, discloses:

- b) a scanning probe generation module for generating probe signals to be directed at firewall ports; (see McClure paragraph [0041], lines 11-16; paragraph [0162], lines 8-12; paragraph [0171], lines 1-4; paragraph [0172], lines 1-4: probe signal capability, port scanning capability)
- d) a time probe signals. (see McClure paragraph [0041], lines 11-16; paragraph [0162], lines 8-12; paragraph [0171], lines 1-4; paragraph [0172], lines 1-4: probe signal capability, port scanning capability)

It would have been obvious to one of ordinary skill in the art to modify Katz to

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enable a scanning probe generation module, and time probe signals as taught by McClure. One of ordinary skill in the art would have been motivated to employ the teachings of McClure in order to enable a quantitative method to objectively compare the security of network systems. (see McClure paragraph [0009], lines 1-11: “ ... *Existing testing methods lack a standard, quantitative method for objectively comparing the security of a target network or target computer to other systems. Typically, a target network or target computer is ranked only as "high risk," "medium risk," or "low risk."* However, such a three-tier system alone provides very little substantive feedback or comparative information about changes in the network over time, the relative weight of different vulnerabilities in determining the resulting risk level, or objective assessments of network security among otherwise heterogeneous network environment. “

With Regards to Claim 21, Katz discloses the firewall test apparatus of claim 20, wherein said analysis module further includes means for determining at least a port opening delay from a session signal time associated with a session signal used to initiate a communications session. (see Katz paragraph [0024], lines 5-9: port opening delay) Katz does not specifically disclose time probe signals. However, McClure in the same field of endeavor, communications (i.e. open, close) port processing, discloses wherein time probe signals. (see McClure paragraph [0041], lines 11-16; paragraph [0162], lines 8-12; paragraph [0171], lines 1-4; paragraph [0172], lines 1-4: probe signal capability, port scanning capability)

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It would have been obvious to one of ordinary skill in the art to modify Katz for time probe signals to start passing through a port as taught by McClure. One of ordinary skill in the art would have been motivated to employ the teachings of McClure in order to enable a quantitative method to objectively compare the security of network systems. (see McClure paragraph [0009], lines 1-11)

With Regards to Claim 25, Katz discloses a firewall test system for testing a firewall, comprising;

Katz discloses wherein a test signal generator for generating communications session initiation signals. And, a test signal analyzer for detecting probe signals passing through said first side of said firewall to said second side of said firewall and for determining port closing delays as measured from the time the test signal analyzer detects a signal used to close a port in said firewall and said analyzer ceases to detect test signals passing through said firewall (see Katz paragraph [0013], lines 5-9; paragraph [0026], lines 1-4: test signals to communications session initiation signals, port open) Katz does not specifically disclose probe signals directed at a first side of said firewall.

However, McClure in the same field of endeavor, communications (i.e. open, close) port processing, discloses:

- a) probe signals directed at a first side of said firewall; (see McClure paragraph [0041], lines 11-16; paragraph [0162], lines 8-12; paragraph [0171], lines 1-4; paragraph [0172], lines 1-4: probe signal capability, port scanning capability)

b) probe signals (see Katz paragraph [0027], lines 6-9; paragraph [0024], lines 5-9: port open, close delays)

It would have been obvious to one of ordinary skill in the art to modify Katz for probe signals as taught by McClure. One of ordinary skill in the art would have been motivated to employ the teachings of McClure in order to enable a quantitative method to objectively compare the security of network systems. (see McClure paragraph [0009], lines 1-11)

With Regards to Claim 26, Katz discloses the firewall test system of claim 25, wherein said test signal generator further includes: means for establishing a communications session through said firewall using session initiation signals. (see Katz paragraph [0026], lines 1-4: signal generation, establish communication session, port open; paragraph [0036], lines 1-2; paragraph [0036], lines 6-12: software, implementation means) Katz does not specifically disclose said probe signals. However, McClure in the same field of endeavor, communications (i.e. open, close) port processing, discloses wherein prior to transmitting at least some of said probe signals. (see McClure paragraph [0041], lines 11-16; paragraph [0162], lines 8-12; paragraph [0171], lines 1-4; paragraph [0172], lines 1-4: probe signal capability, port scanning capability)

It would have been obvious to one of ordinary skill in the art to modify Katz for said probe signals as taught by McClure. One of ordinary skill in the art would have been motivated to employ the teachings of McClure in order to enable a quantitative method to objectively compare the security of network systems. (see McClure paragraph

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[0009], lines 1-11)

With Regards to Claim 27, Katz discloses the firewall test system of claim 26, wherein said test signal generator includes means for synchronizing test signal generation to an outside clock source; and wherein said signal analyzer includes means for synchronizing device operation with said outside clock source. (see Katz paragraph [0015], lines 6-9; paragraph [0032], lines 1-12: clock (i.e. synchronization) based operations performed)

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlton V. Johnson whose telephone number is 571-

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270-1032. The examiner can normally be reached on Monday thru Friday , 8:00 - 5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nasser Moazzami can be reached on 571-272-4195. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nasser G Moazzami/
Supervisory Patent Examiner, Art Unit 2436

Carlton V. Johnson
Examiner
Art Unit 2436

CVJ
October 14, 2008